MAKING THE UPGRADE

TO MEET A CLIENT’S NEEDS FOR HIGH-ACCURACY VERTICAL DATA, MANCHAC CONSULTING GROUP EXPANDED THEIR GIS CAPABILITIES. THE COMPANY IS NOW POSITIONED TO TAKE ADVANTAGE OF NEW PROJECT OPPORTUNITIES.

PROJECT
Using Trimble® GNSS, Manchac Consulting Group replaced legacy data with high-accuracy location and elevation measurements.

SUMMARY
Bossier City, Louisiana Public Utilities Department hired Manchac Consulting Group, Inc. to prepare a hydraulic model of the city’s sanitary sewer system. Manchac used Trimble Geo XH™ Centimeter edition GNSS handheld receivers to obtain high accuracy data on location and elevations for manholes on the main trunk lines. The company used digital photography to provide additional documentation.

PROJECT DATE
2013

As part of the work with the Bossier City Public Utilities Department, Manchac Consulting Group, Inc. (Baton Rouge, LA) evaluated the quality of legacy data on the city’s sanitary sewer lines. After measuring and reviewing location and elevations at a sample of manholes, Manchac’s results revealed discrepancies in the existing data as large as five feet (1.5 meters) vertically. Upon confirming that the original dataset contained errors, Manchac measured location and elevation on 668 of the city’s manholes, producing a new high-accuracy dataset.

To capture data with the required precision, Manchac used the Trimble Geo XH™ Centimeter edition GNSS handheld and Trimble TerraSync™ Centimeter edition software. The company used a high-resolution digital camera and Trimble TrimPix™ Pro system software to take exterior photos of the manholes for identifying and relocating them later. Interior manhole photos were taken to illustrate their general condition.

The project produced three key benefits. First, it provided Bossier City with an up-to-date inspection report on all of the manholes on the main lines to identify potential problems related to infiltration inflow. Second, the dataset of elevations along the sewer lines was imported into the city’s Bentley SewerGEMS program, enabling engineers to generate a prioritized sewer rehabilitation plan. Third, the collected data, along with population projections, generated a
Using Trimble TerraSync software, technicians can quickly enter feature and attribute information. The Trimble GeoXH 6000 provides large storage capacity and long battery life.

A GIS technician captures data on a manhole. The lightweight Trimble solution delivers precise position and elevation data.

future conditions (year 2030) sewer system model that will assist in planning future sewer system improvements.

From field work to postprocessing, the project spanned a total of eight months. Bossier City Public Utilities Director, Jeffery Anderson, PE, was very pleased with the work performed by Manchac. “Manchac’s use of the GeoXH 6000 collected a great amount of information that will be easily integrated into our existing data,” he said.

Shortly after the work in Bossier City, Manchac began work on a similar project in Lake Charles, Louisiana. The versatility of Trimble TerraSync software allowed them to modify the data dictionary used on the project in Bossier City, tailoring it to fit the needs of the project in Lake Charles.

PROJECT HIGHLIGHTS

- Upgrade to centimeter-accuracy GeoXH 6000 allows Manchac Consulting Group to measure location and elevations of over 600 Bossier City sanitary sewer manholes
- New high-accuracy data is used in Bentley SewerGEMS to prioritize sewer rehabilitation plan.
- Bossier City can incorporate population projections to develop a future conditions sewer system model to assist in planning future improvements.
- The versatility of Trimble Terrasync Software allowed Manchac to modify its Bossier City data dictionary to fit a new project in nearby Lake Charles.